

REMARKS

This is in response to the Office Action of December 1, 2004. With this Amendment, claims 18, 20 and 28 are amended and claim 37 has been cancelled. The remaining claims are unchanged in the application. All pending claims are presented for reconsideration and favorable action.

I. CLAIM REJECTIONS UNDER 35 U.S.C. §112

On page 3 of the Office Action, claims 18-37 were rejected under 35 U.S.C. §112, first paragraph. Specifically, the Office Action states, with respect to claims 18 and 28, that the Specification does not contain a written description of the circuitry which produces an unexpected and random change in the nominal power supply voltage such that a skilled artisan can make and use the invention. Also, in connection with claims 18 and 28, the Office Action states that the Specification does not contain a written description of the apparatus which is able to control unexpected and random changes in the nominal power supply voltage such that a skilled artisan can make and use the invention.

Section 2173.05(i) of the Manual of Patent Examination and Procedure (MPEP) states that:

"Adequate description under the first paragraph of 35 USC §112 does not require literal support for the claimed invention . . . Rather, it is sufficient if the originally filed disclosure would have conveyed to one having ordinary skill in the art that an appellant had possession of the concept of what is claimed." *Ex parte Parks*, 30 USPQ2d 1234, 1236 (Bd. Pat. App. & Inter. 1993).

In the present application, the disclosure clearly shows that Applicants had possession of the concept found in claims 18 and 28.

As discussed in the instant specification, some circuitry is designed to operate at nominal voltages. The present

invention introduces disruptions which simulate unexpected deviations from these nominal voltages. The severity and frequency of such unexpected deviations are highly random and can vary based upon a computer power supply capability, local utility quality, climate, operating environment, and other numerous factors. Design of circuitry, such as for disc storage products, must provide a certain amount of immunity to these unexpected deviations for the products to survive and provide useful service throughout their life. The present invention provides a method and electronic device power testing apparatus in which a nominal voltage is applied to electronic components and disruptions are introduced into this nominal voltage to simulate the occurrence of such real world unexpected deviations. FIG. 1, which is a simplified block diagram of the present invention, shows power sources 107 and 108, that apply nominal voltages, and variable disturbance switches 109 and 110, which help introduce disruptions into the nominal voltage(s) to simulate the occurrence of real world unexpected deviations. FIGS. 2 through 5 illustrate more detailed aspects of components used to introduce disruptions into nominal voltages for specific durations. Thus, Applicants clearly had possession of the invention, claimed by claim 18 and/or claim 28, at the time of filing.

In view of the above, Applicants respectfully submit that the rejection of claims 18 and 28 under 35 U.S.C. §112, first paragraph, is improper. However, in spite of the rejection being improper, claims 18 and 28 have been amended to replace "an unexpected and random change" with "a disruption." These amendments have been made only because the Examiner appears to prefer the word "disruption," as it has more literal support (appears numerous times) in the Specification. For example, "disruption" appears multiple times in paragraph 23, of the Specification, which is included below.

"Voltage disruption frequency and voltage disruption time duration are determined by counter timers on the multifunction I/O board, specifically, 255. When line 255 asserts a voltage disruption, each of the individual high voltage drivers, 260 and 262, outputs assert to the operational amplifier's voltage, which is then reflected at the base terminals of transistors 220 and 222. This puts transistors 220 and 222 to assume a proportional conduct state and then diodes 224 and 226 serve to block the higher voltage, from transistors 220 and 222, conduction from entering the lower voltage power supplies. The result is a controlled voltage spike for a specific duration." (Emphasis Added).

The above language also provides the necessary support for the disruptions being controllable/controlled.

With respect to claim 19, the Office Action states that the Specification does not contain a written description of the apparatus which is able to control the maximum voltage of a rising pulse. Further, the Office Action states that the word "pulse" is not even included in the Applicants' specification. However, Applicants respectfully point out that, on page 7 of an Office Action mailed on November 13, 2003, the Examiner stated that "one of ordinary skill in the art would recognize Applicants' Figure 5 as depicting a series of pulses." Thus, the Examiner appears to be inconsistent in his positions on how "one of ordinary skill in the art" would interpret the Applicants' Specification. In any event, Applicants respectfully submit that paragraph 28 of the Specification, which is included below, provides support for the limitations of claim 19.

"With the DUT 105 powered on, the operator of the computer application 102 is able to specify voltage disruptions or glitches 506-507 to be enabled. The operator may select whether the voltage disruptions 506-507 will be enabled for the 5 Volt power

502, the 12 Volt power 503, or both. The operator is able to control the voltage disruption frequency by controlling the interval 508 between disruptions. The operator is also able to control the duration of the voltage disruption 509 and the amplitude 510. If the operator specifies a peak voltage value for the voltage disruption, then the corresponding low voltage value will be a default, and vice versa. The operator may not set both peak and low values for a given voltage. However, a peak voltage value may be set for one voltage and a low voltage value set for the other voltage."

The above language describes components that are capable of causing variations in electrical energy above or below a normal level for a given duration (pulses), thus providing the necessary support for claim 19. Further, as noted above, Applicants' FIG. 5, which illustrates timing diagrams of the power output signals in accordance with an embodiment of the present invention, depicts a series of pulses. Therefore, the rejection of claim 19 should be withdrawn.

On page 4 of the Office Action, claims 18-37 were rejected under 35 U.S.C. §112, second paragraph. Specifically, the Office Action suggests, with respect to claims 18 and 23, that "an unexpected and random change" has been made indefinite by the disclosure included in paragraph 23 of the Specification. Although Applicants believe that this rejection is improper, no argument has been presented because the amendments to claim 18 and 28, in accordance with the subject matter of paragraph 23 of the Specification, obviate this rejection. Thus, the rejection of claims 18 and 28 under 35 U.S.C. §112, second paragraph, should be withdrawn.

With respect to claim 20, the Office Action states that there is insufficient antecedent basis for "the voltage." With this Amendment, claim 20 has been appropriately amended and

therefore the rejection should be withdrawn. Also, claim 37, which was rejected under 35 U.S.C. §112, has been canceled. Thus, the rejection of pending claims 18-36 under 35 U.S.C. §112 should be withdrawn.

II. CLAIM REJECTIONS UNDER 35 U.S.C. §103

On page 6 of the Office Action, claims 18-20, 22, 24-26, 28-30, 32 and 34-36 were rejected under 35 U.S.C. 103(a) as being unpatentable over Baumgartner (U.S. Patent No. 4,879,623) in view of Koizumi (U.S. Patent No. 6,151,182). Also, on page 10 of the Office Action, claims 21 and 31 were rejected under 35 U.S.C section 103(a) as being unpatentable over the combination of Baumgartner and Koizumi and furthermore in view of Cronvich (U.S. Patent No. 5,386,183). Further, on page 11 of the Office Action, claims 23 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Baumgartner and Koizumi and furthermore in view of Lee (U.S. Patent No. 4,764,652).

A. Rebuttal of *prima facie* case of obviousness

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations. In re Vaeck, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991); M.P.E.P. §2143.

Under these criteria, the final Office Action fails to establish a *prima facie* case of obviousness of claims 18-36 based on the cited prior art.

Claim 18, which is directed to a power tester apparatus

for testing an electronic device, includes a power source supplying the constant power supply voltage at the nominal power supply voltage of the electronic device; a connector coupled to the power source, the connector adapted to connect the constant power supply voltage to a power supply input on the electronic device; circuitry configured to introduce disturbances into the constant power supply voltage applied to the electronic device, a disturbance configured to simulate a disruption in the nominal power supply voltage; wherein the disturbances introduced into the constant power supply voltage applied to the electronic device are controllable.

The Office Action suggests that, other than "a connector coupled to the power source, the connector adapted to connect the constant power supply voltage to a power supply input on the electronic device," Baumgartner teaches the above elements of claim 1. (Citing FIG. 3, 62, 68, 70 and 72, and column 6, lines 1-5.) Applicants respectfully point out that the Baumgartner invention is directed to an apparatus for protecting a motor circuit from damage caused by variations in the nominal voltage level of electrical power supplied to a motor vehicle. (Column 1, lines 64-67 of Baumgartner.) Accordingly, the cited figure and language of Baumgartner relates to elements of a protection apparatus for an electrical circuit. These elements include a sensing device for determining whether a transient voltage component of a supply voltage exceeds a predetermined maximum value. Also included are smoothing elements for limiting/suppressing the amplitude of the transient voltage component if it exceeds the predetermined maximum value. Baumgartner teaches or suggests nothing about elements/limitations such as "circuitry configured to introduce disturbances into the constant power supply voltage applied to the electronic device, a disturbance configured to simulate a disruption in the nominal power supply voltage," which are

required by claim 18. The other cited references (Koizumi, Cronvich and Lee) do not overcome the deficiencies of Baumgartner.

Since none of the reference taken alone or in combination teach or suggest the claimed invention, the Examiner has failed to support a *prima facie* conclusion of obviousness (by not satisfying the third criterion for a *prima facie* conclusion of obviousness set forth in Vaeck) with regard to the pending claim 18. Furthermore, the Examiner provided no evidentiary basis for modifying the cited references to arrive at the claimed invention.

Also, even if the Baumgartner reference and the Koizumi reference may be combined, the combination does not reach the apparatus of claim 18. First, as mentioned above, the Baumgartner invention is directed to an apparatus for protecting a motor circuit from damage caused by variations in the nominal voltage level of electrical power supplied to a motor vehicle. Further, Koizumi teaches an information storing device having a plurality of working modes at recording/reproduction, which can be selected according to conditions of power supply for a device of higher rank, with which the information storing device is connected, and a method for driving same. Nothing in Baumgartner or Koizumi relates to simulating disruptions in a nominal power supply voltage. Thus, the combination of these references cannot reach the apparatus of claim 18.

In view of the foregoing, claim 18 is non-obvious and allowable over the cited references.

B. Baumgartner teaches away from the present invention

Further, Baumgartner, by its vary nature, teaches away from introducing disturbances into a constant power supply voltage applied to an electronic device. That is, Baumgartner is directed to an apparatus for protecting a motor circuit from

damage caused by variations in the nominal voltage level of electrical power supplied to a motor vehicle. Thus, the essence of Baumgartner is acting (or guarding) against disturbances in the nominal voltage and not introducing disturbances into the constant power supply voltage applied to the electronic device.

C. Use of impermissible hindsight

"To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." W.L. Gore, 721 F.2d at 1553, 220 USPQ at 312-13.

A prima facie case of obviousness cannot be established from the use of impermissible hindsight. The Examiner has not shown any suggestion, either in the references or in the knowledge of one skilled in the art, that the language of Baumgartner could be interpreted to include introducing disturbances into a constant power supply voltage applied to an electronic device, wherein the disturbance is configured to simulate a disruption in the nominal power supply voltage. In fact, the wording in Baumgartner that the Examiner relies upon teaches or suggests nothing about simulating disruptions in the nominal power supply voltage, as discussed above. The Examiner is completely misconstruing Baumgartner while intentionally ignoring the relevant paragraphs and specification as a whole.

"It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position to the exclusion of other

parts necessary to the full appreciation of what such reference fairly suggests to one skilled in the art." *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.* 796 F.2d 443, 230 USPQ 416 (Fed. Cir. 1986). See also *In re Wesslau*, 353 F.2d 238, 241, 147 USPQ 391, 393 (CCPA 1965); *In re Mercier*, 515 F.2d 1161, 1165-66, 185 USPQ 774, 778 (CCPA 1975).

A fair reading of Baumgartner clearly shows that protecting a motor circuit from damage caused by variations in the nominal voltage level of electrical power supplied to a motor vehicle has nothing to do with introducing disruptions in the nominal power supply voltage. The Examiner is simply pointing to certain elements of FIG. 3 of Baumgartner and improperly interpreting these elements as teaching elements of the claimed invention. In fact, the elements of Baumgartner, that the Examiner points out to, relate to the detection and handling of fault signals, which is unrelated to the claimed invention. Thus, the Examiner is choosing to give an improper interpretation to portions of Baumgartner, while ignoring the reference as a whole.

"Determination of obviousness cannot be based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the patented invention. There must be a teaching or suggestion within the prior art, or within the general knowledge of a person of ordinary skill in the field of the invention, to look to particular sources of information, to select particular elements, and to combine them in the way they were combined by the inventor." *ATD Corp. v. Lydall, Inc.*, 159 F.3d 534, 48 USPQ2d 1321 (Fed. Cir. 1998).

Unfortunately, the sole basis for the rejections found in the Office Action are based upon impermissible hindsight as discussed above; the Examiner has not shown any teaching or suggestion, either in the references or in the knowledge of one skilled in the art, relating to introducing disturbances into a constant power supply voltage applied to an electronic device, wherein the disturbance is configured to simulate a disruption in the nominal power supply voltage. Accordingly, the only teaching or suggestion of introducing disturbances into a constant power supply voltage applied to an electronic device has come from Applicant's own disclosure.

III. CONCLUSION

For the above-mentioned reasons, independent claim 18 is believed to be allowable over the cited prior art. Independent claim 28 has elements similar to that of independent claim 18. Thus, for the same reasons as independent claim 18, Applicants submit that independent claim 28 is allowable as well. Moreover, Applicants respectfully submit that the dependent claims are also allowable by virtue of their dependency, either directly or indirectly, from the allowable independent claims. Further, the dependent claims set forth numerous elements not shown or suggested in the cited prior art.

In view of the foregoing, Applicants respectfully request reconsideration and allowance of pending claims. Favorable action upon all claims is solicited.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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